

Agenda Item #5

**REPORT OF ACTIVITIES
OF THE
DEPARTMENT OF WATER RESOURCES**

by

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WATER CONDITIONS

At the end of Water Year 2007 (October 1, 2006 through September 30, 2007) California statewide hydrologic conditions were as follows precipitation, 65 percent of average to date; runoff, 50 percent of average to date; and reservoir storage, 80 percent of average for the date. On April 1, the statewide snow pack was about 40 percent of the April 1 average (the usual date of maximum accumulation). This is the smallest snowpack for April 1 since 1988 when the statewide snowpack was at 30 percent of the April 1 average. On May 1, 2007, the statewide snowpack was only about 25 percent of normal due to below-normal snowfall and above-normal temperatures during April. Usually, snowmelt continues well into June, but by June 1 of this water year, the statewide snowpack was essentially gone.

A series of troughs during September kept temperatures throughout the State below normal. During the last half of September, an unusually strong, cold, low-pressure system developed in the Gulf of Alaska and spread across California, resulting in much cooler than normal temperatures and widespread precipitation. This system brought a dusting of snow to the higher elevations of the Sierra and localized heavy showers to Southern California.

In general, seasonal precipitation during this water year has been significantly below average, especially in Southern California, where record dryness has occurred at some locations. On September 30, the Northern Sierra 8-Station Index had a seasonal total of 37.2", which is about 74 percent of the average for an entire Water Year (50.0"). During Water Year 2007, the Northern Sierra 8-Station Index had the sixth driest January and March on record. (In contrast, the other large precipitation months of December and February were above normal at 101 percent and 170 percent of average, respectively.) The Water Year 2007 October through September seasonal total of 37.2" is the 24th driest year out of 88 years of record. In both Northern and Southern California, fire season began early because of the dryness. The storm in September was insufficient to alleviate the abnormally dry conditions.

As of June 5, 2007, the date of the last forecast for this Water Year, the projected median April-July unimpaired snowmelt runoff for the State's major water supply basins ranged from 56 percent (Shasta Lake Inflow) to 22 percent (Tule River). Sacramento River unimpaired runoff observed through September 30, 2007 was about 10.3 million acre-feet (MAF), which is about 55 percent of average. (On September 30, 2006, the observed Sacramento River unimpaired runoff through that date was about 31.9 MAF or about 171 percent of average.) The median forecasts of the Sacramento and San Joaquin Valley Water Year Type indexes are "Dry" and "Critical," respectively.

Selected Cities Precipitation Accumulation as of 10/01/2007 (National Weather Service Water Year: July through June)					
	Jul 1 to Date 2007 - 2008 (in inches)	% Avg	Jul 1 to Date 2006 - 2007 (in inches)	% Avg	% Avg Jul 1 to Jun 30 2007 - 2008
Eureka	1.21	89	0.13	10	3
Redding	1.31	182	0.04	6	3
Sacramento	0.07	16	0.00	0	0
San Francisco	0.16	55	0.00	0	0
Fresno	0.04	15	0.00	0	0
Bakersfield	0.13	59	0.00	0	2
Los Angeles	0.52	116	0.00	0	3
San Diego	0.05	16	0.05	16	0

Key Reservoir Storage (1,000 AF) as of 10/01/2007								
Reservoir	River	Storage	Avg Storage	% Average	Capacity	% Capacity	Flood Control Encroachment	Total Space Available
Trinity Lake	Trinity	1,463	1,704	86	2,448	60	---	985
Shasta Lake	Sacramento	1,886	2,813	67	4,552	41	-2,666	2,666
Lake Oroville	Feather	1,569	2,255	70	3,538	44	-1,794	1,969
New Bullards Bar Res	Yuba	619	592	105	966	64	-295	347
Folsom Lake	American	325	560	58	977	33	-652	652
New Melones Res	Stanislaus	1,438	1,332	108	2,420	59	-845	982
Don Pedro Res	Tuolumne	1,267	1,365	93	2,030	62	-516	763
Lake McClure	Merced	327	467	70	1,025	32	-531	698
Millerton Lake	San Joaquin	201	203	99	520	39	-320	319
Pine Flat Res	Kings	186	348	53	1,000	19	-814	814
Isabella	Kern	115	185	62	568	20	-194	453
San Luis Res	(Offstream)	631	988	64	2,039	31	---	1,408

The latest National Weather Service Climate Prediction Center (CPC) 90-Day long-range seasonal weather outlook (for October through December), issued September 20, suggests above average precipitation for Northern California (including the Pacific Northwest) and parts of Central California and average to below-average for Central and Southern California. Temperatures are expected to be above average for all of the State except the central and southern coasts, which are forecast to be average. The latest CPC long-range weather outlook for October, issued September 30, suggests below average precipitation for Southern California and average values for Central and Northern California. Temperatures are expected to be average for all of California. In addition to the below average precipitation suggested for Southern California, both the one- and three-month forecasts suggest that precipitation will be below average for the American Southwest.

The pattern of the this Winter Outlook is influenced by the continuing development of weak to moderate La Niña conditions (cooler than average sea-surface temperatures) across the tropical Pacific. Current conditions suggest that La Niña conditions may continue into the spring of 2008. La Niña events influence the position and strength of the jet stream over the Pacific Ocean, which in turn affects the winter precipitation and temperature patterns across the United States and other locations in the world.

STATUS OF EROSION REPAIRS

2005 Ayres Critical Erosion Sites

The only work remaining on the 2005 Critical Erosion Sites is the installation of willow pole cuttings at four sites. Due to hot weather, installation of willow pole cuttings was temporarily postponed, and will be completed in October 2007. Work related to on-site environmental mitigation including soil-rock mix and agricultural soil cover, plantings, in-stream woody materials (IWM), fascine bundles, pole cuttings, seeding, and erosion control fabrics, has been completed on 15 DWR-led sites.

2006 Ayres Critical Erosion Sites

Phase II soil and planting work for the 22 Department of Water Resources' (DWR) and U.S. Army Corps of Engineers (Corps) Critical Erosion Sites (2006) is currently under construction and scheduled for completion by November, 2007. The set-back levee designs for two sites on Cache Creek; levee mile (LM) 3.9 and LM 4.2, are complete. As private land acquisitions are required for construction of set-back levees, initiation of repairs is dependent upon the results of negotiations with landowners. DWR has started the excavation of borrow material for construction of the setback levees at the City of Woodland Detention Basin and material generated is being stockpiled in a temporary storage area at a nearby City-owned property.

2006 Public Law (PL) 84-99 Rehabilitation Assistance Program

DWR obtained environmental permits and initiated repairs on the last remaining Order 1 site located at Butte Creek LM 0.8. Repairs will be completed by November 1, 2007. The Corps has also added six Order 2 sites on the Sacramento River in Reclamation District (RD) 150 to their PL84-99 repair list.

Initially, the Corps had selected 62 of the 133 Order 3, 4 and 5 sites for repairs. However, due to environmental restrictions related to endangered species and limited construction windows, only 7 of these sites will be constructed this year before the flood season. For the remaining sites, flood fighting contingencies will be established and implemented as necessary. The Corps is lead agency for PL84-99 repairs and DWR is providing environmental permitting, rights-of-way and borrow materials for these sites.

Special Levee Repair Projects

Hamilton City Levee Interim Repairs: DWR is assisting Glenn County with the Hamilton City Sacramento River (RM) 200.6 interim repair project. Work on engineering design and environmental permitting is in progress. This repair consists of strengthening the levee by adding fill to the landside slope. There are about 30 to 50 feet of riverbank remaining on the waterside and a Field Action Report completed by URS last year concluded that the existing levee could fail during a high flood event.

DWR is currently working with Glenn County and Hamilton City officials on cost share funding through the Local Levee Urgent Repairs Grant Program to finance 50 percent of project costs.

Fremont Weir Gage Sacramento River Mile (RM) 83.9R: Bank erosion close to the existing Fremont Gage has reached a critical stage in a 300 to 400 feet length of this levee reach. Per a recently completed Field Action Report, erosion is threatening this strategic flood forecasting Gage. Planning and design for Gage relocation is in progress.

Feasibility Study for 3B's Overflow Structure: DWR is developing a proposal to conduct a feasibility study to repair/modify the Butte Basin 3B's Overflow structure. This proposal will detail the process needed to determine and evaluate the alternatives for re-establishing the overflow structure to meet the current overflow needs, and will begin to address cost sharing options with the local agencies.

M&T Phelan Levee at Sacramento River Mile (RM) 192.4L: DWR and URS have completed a Field Action Report evaluating bank erosion at Sacramento RM 192.4L. The report concludes that this erosion does not meet the DWR/Corps Critical Status Criteria as bank erosion does not currently affect the integrity of the Phelan Levee. In addition, this private levee is not part of the Sacramento Flood Control System (Federal Project levees), and does not qualify for Public Law (PL) 84-99 Rehabilitation funding.

The following recommendations have been made.

1. The "not-critical" erosion site at Sacramento River Mile 192.4L should be monitored for further erosion during the next several seasons.
2. In case the erosion progressed to the point that this site meets the critical site criteria, Butte County should be encouraged to work with this local levee owner and the State to identify funding sources.
3. The local levee owner should work with both DWR and the Corps to establish flood fighting contingencies in case the main levee section is in danger of flood damage during a single flood event.

DELTA RISK MANAGEMENT STRATEGY (DRMS)

1. The goals of the Delta Risk Management Strategy are as follows.
 - a. Evaluate the risk and consequences to the State (e.g., levees, infrastructure, and ecosystem) associated with the failure of Delta levees and other assets considering their exposure to all hazards (seismic, flood, subsidence, seepage, sea level rise, etc.) under present as well as foreseeable future conditions. The evaluation should assess this total risk as well as a segregation of the risk for individual islands

(Phase 1).

- b. Propose an acceptable risk criterion for consideration of alternative risk management strategies and for the State's use in management of the Delta and the implementation of risk-informed policies.
- c. Develop a Delta Risk Management Strategy, including a prioritized list of actions to reduce and manage the risks or consequences associated with Delta levee failures. (Phase 2)

2. Current Status:

- a. The Phase 1 draft report was completed by the DRMS consultant, URS Corporation, in April 2007. DWR requested the CALFED Independent Science Board (ISB) conduct a peer review of the draft Phase 1 report. To accomplish this task, the ISB selected an Independent Review Panel (IRP) composed of nine scientists and engineers. The IRP completed their review and submitted their results to the CALFED ISB in August 2007. On August 30, 2007, the ISB transmitted the IRP comments to DWR for a response. The review comments were critical of the lack of documentation of resources, and suggested the need to improve the transparency of the documents of the report. DWR, with support from URS, responded to the ISB letter on September 18, 2007. DWR and URS are taking the comments quite seriously, and URS has provided a schedule that shows they will have the corrected Phase 1 documents to DWR in March 2008.
- b. On September 20, 2007 the draft Phase 1 report (which includes a Summary Report, Risk Analysis report, and 13 Technical Memoranda) was posted on the DRMS web site for public review and comment. Also posted on the DRMS web site were the comments from the IRP, the letter to DWR from CALFED ISB, along with the DWR and URS response to review comments received.
- c. The Phase 2 draft report was submitted to DWR in August 2007, and DWR Deputy Director Les Harder gave a presentation to the Delta Vision Blue Ribbon Task Force members on the draft Phase 2 results in August 2007. These results were in the form of "flashcards", which are 11 x 17 inch figures which show the various scenarios, their costs, and the risk reduction produced by that scenario as compared to the current state of the Delta. The draft Phase 2 report had three different scenarios that were investigated. The scenarios are: (1) Improved Delta Levees scenario; (2) Armored Pathway through the Central Delta; and (3) Alternative Conveyance Facility around the Delta. This information is also available on the DRMS web site.

LEEVE EVALUTATIONS

The newly formed levee evaluations branch was created to perform geotechnical levee evaluations on about 350 miles of urban levee. An urban levee is defined as protecting

at least 10,000 people. The geotechnical levee evaluations will focus on the urban project levees in geographic areas of RD 17, Natomas, West Sacramento, Marysville, Woodland, Davis, Stockton, MA9, the American River, Sacramento, the Sutter Basin, and RD 784. This program will later expand to other areas within the Sacramento and San Joaquin Flood Control Projects using Bond funding.

The purpose of these evaluations is to assist in developing a levee certification program based on geotechnical data, provide consistent formats for data (and associated data exchange), and provide an evaluation of the levee system based on geotechnical data. This evaluation will be conducted with the goal of providing 200 year level of protection in urban areas and the design profile level of protection in rural areas using the Corps under seepage criteria.

The following activities took place during the past month:

1. In its sixth independent consulting board report, the board recommended that closure structures such as at railroads and highways, especially in West Sacramento, need to be improved. Also, DWR should develop policy level guidance and criteria for seismic induced failures.
2. Due to the late state budget, the project schedule has been increased between two to six months. These delays have been communicated to local stakeholders.
3. Drilling is occurring in Sutter County and Natomas. Drilling will start in October in Stockton, RD 17, Marysville, and West Sacramento.
4. The Levee Evaluations Branch is moving from the JOC on October 5, 2007 and will be located at 2825 Watt Avenue, Suite 100 on October 9, 2007. All phone numbers of staff will be different.
5. In September 2007, an Electro Magnetic survey of the urban levees was performed. This information will augment borings and should inform DWR of anomalies in the subsurface soils that may require future subsurface explorations. Extensive media coverage occurred as the helicopter was flying very low and towing a sensor below the helicopter referred to as a survey bird. This work concluded on October 1, 2007. It will take about three to six weeks to process data collected.
6. A Bathymetric survey of the urban areas of the Sacramento, San Joaquin, lower Calaveras, and lower American Rivers will begin in October or November, 2007.
7. A Request for Qualifications for two \$60 million contracts to perform mostly non-urban levee evaluations has been advertised. The Statement of Qualifications for these contracts is due on October 10, 2007. Once all submittals are received, DWR staff will work expeditiously to select the best qualified contractor(s).

8. Preliminary Geotechnical Evaluation Reports for RD 17 and West Sacramento were issued in draft form in October and are being reviewed by DWR and the Corps. A Preliminary Geotechnical Evaluation Report for Marysville will be issued in mid-October 2007.
9. The Levee Evaluations Branch is assisting the Floodplain Mapping Office with evaluating labor rates and scope of services for their four Central Valley Mapping contracts.

NORTH BYPASS RANCH PROJECT – RECLAMATION BOARD PERMIT NO. 17843

The project is known as the North Bypass Ranch Project and is located east of Meridian and east of Progress Road in the Sutter Bypass (N 39.116975 W -121.784969, approx. from Google Earth). This area is inspected by Bob Duffey of the Flood Project Integrity and Inspection Branch of Division of Flood Management.



Permit No. 17843 was issued on January 12th, 2005 by the Reclamation Board to property owner, David Lanza. The permit was to establish a 115 acre restoration site, which included grading and raising the existing perimeter levee, constructing a cross levee, excavating potholes, constructing islands, installing concrete control structures,

and planting native grasses within the Sutter Bypass. On October 13th, 2005 a field inspection of this site revealed that all work covered by the permit had been completed and all permit conditions appeared to have been met. On October 20th, 2005 Richard Marshall closed the permit.

Permit Condition Twenty-Three states, *"Tree planting shall not be performed in the area. All volunteer trees, willows and woody plants shall be removed from the project area prior to one year of growth."* According to a conversation with Sterling Sorensen on October 3rd, 2007, this project has been brought to management attention because tree planting was recently observed by a Reclamation Board Member in the project location which violates permit condition Twenty-Three. The 2005 and 2006 Levee Inspection Sheets for RD 1660 Unit 2 and East Levee Sutter Bypass (Sutter Maintenance Yard), which border the project location, show no information in violation of permit condition Twenty-Three. As a follow-up to this complaint, Bob Duffey will investigate this site the week of October 9 and an updated report will be available at the October Reclamation Board meeting.

KNIGHTS LANDING LEVEE MAINTENANCE AGREEMENT

Castle Properties, LLC and Knights Landing Ridge Drainage District (KLRDD) are finalizing their agreement to complete the levee work required in order for KLRDD to assume maintenance responsibilities. The KLRDD general manager has informed DWR that that agreement should be signed into during their next board meeting later this month. Castle Properties, LLC has provided a levee crown road and removed encroaching vegetation along this levee and is currently in the process of grouting rodent holes. Concurrently, DWR has drafted an agreement between the Reclamation Board and KLRDD that establishes the maintenance responsibilities. The draft agreement has been reviewed by the Reclamation Board general manager and legal council and is being prepared for distribution.

TISDALE BYPASS CHANNEL REHABILITATION PROJECT

Sediment removal within Tisdale bypass is proceeding slightly ahead of scheduled production. There are sixteen 657E scrapers and four water trucks working six days per week for ten-hour shifts. The Contractor is currently removing approximately 26,000 cubic yards (cy) of sediment daily. As of October 5, approximately 1,160,000 cy of sediment have been removed from the bypass and stockpiled within the spoil site. Only one work day was lost due to rain that exceeded the allowable threshold in a 24-hour period. The Contractor is attempting to stay ahead of schedule and anticipates completing the sediment removal by November 1, 2007 and the project by November 15, 2007. Seeding is scheduled to take place starting next week and revetment installation has begun.